Abstract

Supporting apparatus for supporting a growing single crystal of semiconductor material, and process for producing a single crystal

The invention relates to a supporting apparatus 1 for supporting a thickening 82 at the dash neck 81 of a single crystal 8 consisting of semiconductor material in a crystal pulling installation which operates using the Czochralski crucible pulling process, the supporting apparatus 1 in its lower region having a bearing apparatus 121, 122 with a central opening, it being possible for a circle with a diameter D_1, the center point of which lies on a vertical axis 16, to be inscribed in this central opening in a horizontal plane, and the bearing apparatus 121, 122 being connected, by means of one or more connecting elements 132, 133, 134, to at least one securing element 14 which is arranged above the bearing apparatus 121, 122 and is suitable for being secured to a lifting device 2 of the crystal pulling installation, the connecting elements 132, 133, 134 being arranged in such a way that in the region immediately above the bearing apparatus 121, 122 they leave clear a space in which a circle with a center point lying on the axis 16 and a diameter D_2 which is larger than the diameter D_1 can be inscribed in any desired horizontal plane, wherein the supporting apparatus 1 is inherently immobile.

The invention also relates to a process for producing a single crystal from semiconductor material which uses the supporting apparatus.